



UNITED STATES PATENT AND TRADEMARK OFFICE

121/

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/083,985	02/27/2002	Jeremy Jones	99069	6845

29050 7590 05/18/2004

PHYLLIS T. TURNER-BRIM, ESQ., LAW DEPARTMENT
CABOT MICROELECTRONICS CORPORATION
870 NORTH COMMONS DRIVE
AURORA, IL 60504

EXAMINER

MCDONALD, SHANTESE L

ART UNIT	PAPER NUMBER
----------	--------------

3723

8

DATE MAILED: 05/18/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/083,985

Applicant(s)

JONES ET AL.

Examiner

Shantese L. McDonald

Art Unit

3723

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on 17 February 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☐ Claim(s) 1-37 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☐ Claim(s) 1-11, 13, 15, 16, 18-27 and 29-37 is/are rejected.
- 7) ☐ Claim(s) 12, 14, 17, 28 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

(e) the invention was described in-

(1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effect under this subsection of a national application published under section 122(b) only if the international application designating the United States was published under Article 21(2)(a) of such treaty in the English language; or
(2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that a patent shall not be deemed filed in the United States for the purposes of this subsection based on the filing of an international application filed under the treaty defined in section 351(a).

1. Claims 1,2,7-11,13-16,18-20,22-27,29-37 are rejected under 35 U.S.C. 102(e) as being anticipated by Newell.

Newell teaches a method for producing a polishing pad comprising providing a thermoplastic porous polymer structure, (col. 3, lines 9-29), comprising polyurethane which comprises an intrinsic/extrinsic surface texture, (col.2, lines 36-37), compressing at least a region, (col. 4, lines 8-12), of the structure to provide a translucent region, and overlaying a region of the porous polymer structure to be compressed with a space-filling material prior to compressing, (col. 4, lines 8-10), and forming a polishing pad comprising the porous polymer structure, whereby a polishing pad is produced comprising the translucent region. Newell also teaches heating the structure, (col. 4, lines 25-31), and that the polymer structure is opaque prior to the compression step, (col. 3, lines 30-50) and the polishing pad further comprises an opaque region that is provided by a material that is different from the porous polymer structure, (col. Lines 40-43). Newell further teaches planarizing a substrate, which is a semiconductor device,

and passing light through the translucent region to evaluate the polishing on the substrate, (col. 4, line 61- col. 5, line 35).

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 3-6 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Newell.

Newell teaches all the limitations of the claims except for the porous polymer structure is heated to a temperature about 10-50 °C above its melting point, the structure being compressed to a thickness that is about 10-50% of its thickness prior to compression and the translucent region is translucent to light having a wavelength of about 190-3500 nm. It would have been obvious to one having ordinary skill in the art at the time the invention was made, to provide the invention of Newell with the above listed limitations, since it has been held that when the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art.

Allowable Subject Matter

Claims 12,14,17 and 28 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Response to Arguments

Applicant's arguments filed 2/17/04 have been fully considered but they are not persuasive.

The applicant argues that the Newell reference doesn't teach producing a polishing pad comprising compressing at least a region of a porous polymer structure to provide a translucent region, and that the reference teaches forming a polishing pad. The Newell reference states that "although the polishing pad of the present invention can be translucent in its entirety, the polishing pad preferably comprises a substantially opaque region in addition to the translucent region", (col. 3, lines 30-33), and goes on to state that "the translucent region could be inserted or formed as part of a substantially opaque polishing pad", (col. 3, lines 43-44). The reference does teach the method of making the pad, and because the claims state that at least a region of the pad is translucent, that means that the whole pad can be translucent, in which case the reference teaches that and also teaches that the method for making that pad is by pressing. The applicant also argues that Newell teaches filling the pores of a matrix polymer, and this is contrary to the teaching of compressing the porous polymer. The applicant states that compressing the pores would preclude their being filled with a filler.

The examiner disagrees, because the Newell reference also states that, "the filler need not occupy all of the pores of a region of the matrix polymer in order to provide a translucent region.

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Shantese L. McDonald whose telephone number is (703) 308-8722. The examiner can normally be reached on 8:00 a.m. - 4:30 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Joseph Hail can be reached on (703) 308-2687. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



S.L.M.
May 13, 2004

Joseph J. Hail, III
Supervisory Patent Examiner
Technology Center 3700